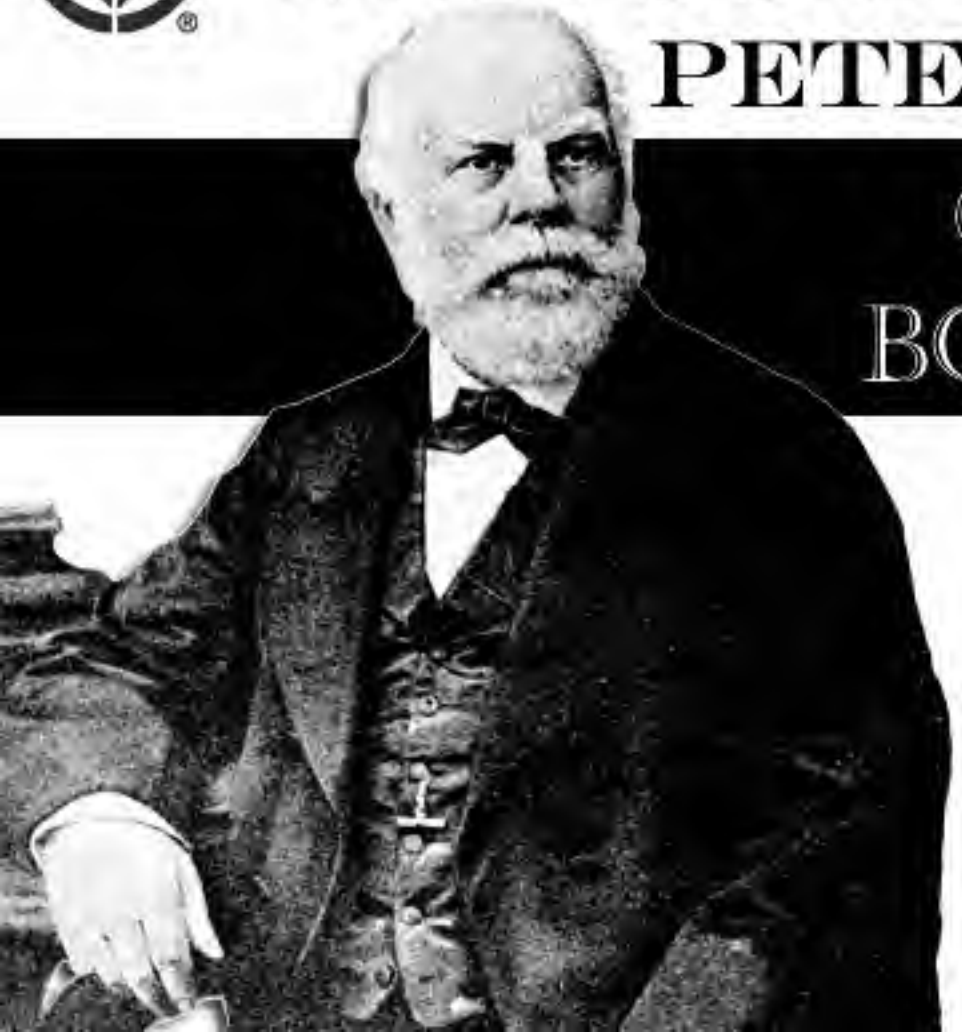
Missouri Botanical Garden
Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

No. 2

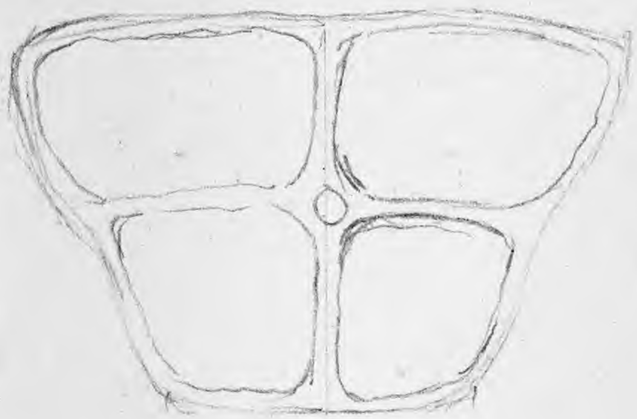
Isoetes Engelmanni

July 29 1866

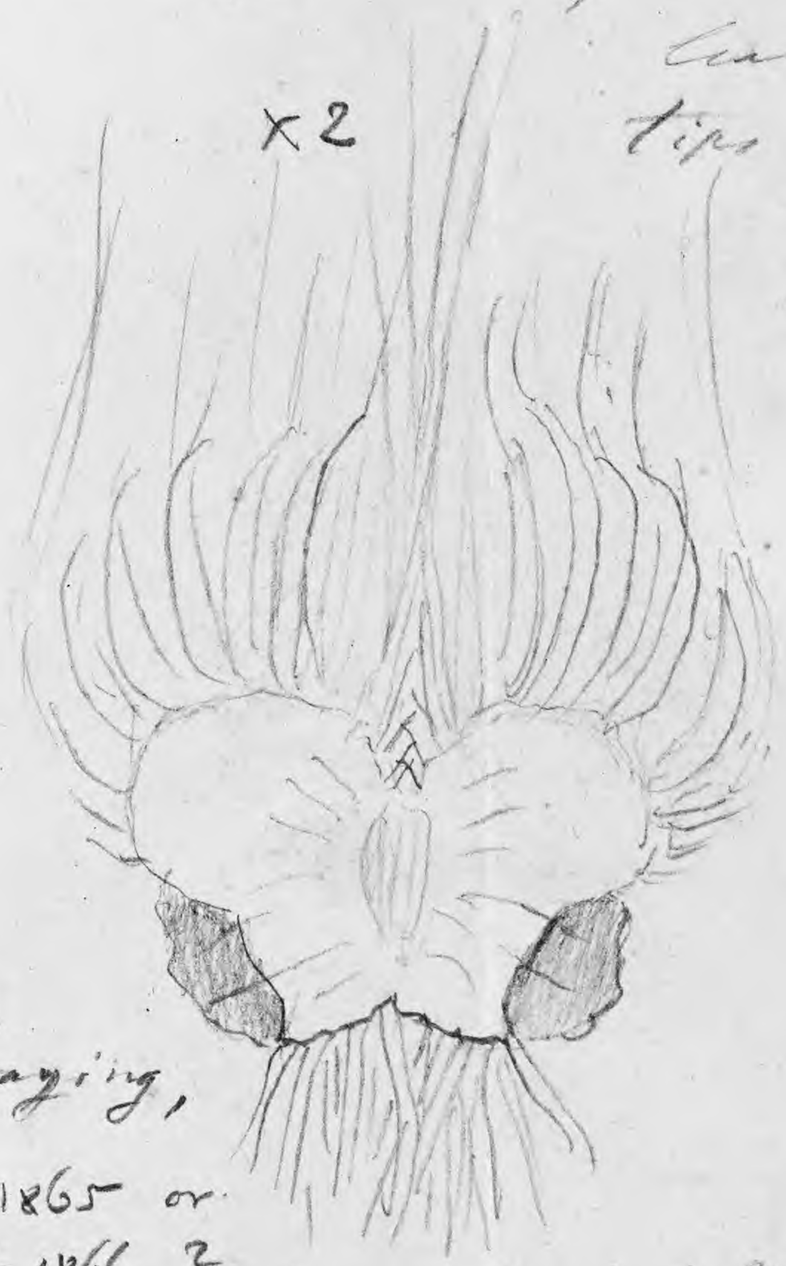
Wm M Canby July 23 1866

leaves a foot long or more tips rotten off. – Old leaves and fruit ripe – a new growth in the centre

section

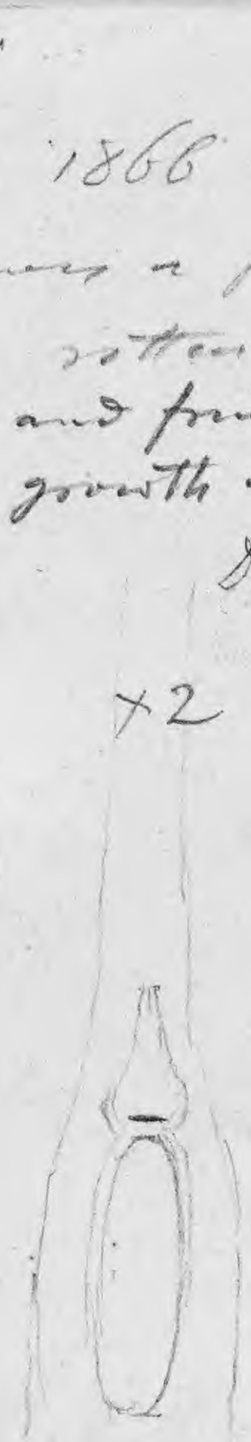


largest leaves ×10

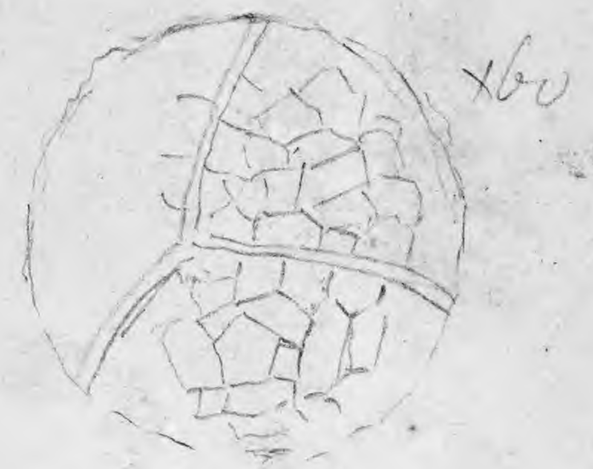


Diam. Spores ×60

×2 Spores 0.41 – 0.50 mm



an inner leaf



Thalves of old bulb ×2 decaying, blackish brown –

Are these the growth of 1865 or rather the older growth of 1866 ?

13797

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

over

Isoetes Engelmanni
Rhodia Carolinianum virginica Sept 21 1866

Dry specimens

pl 8–12
10–12 inches long

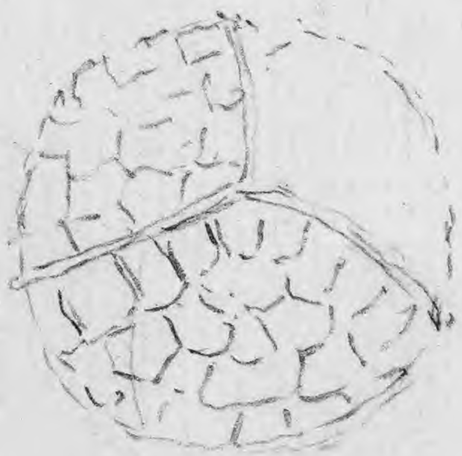
X415

$\frac{11-12}{415}$ =

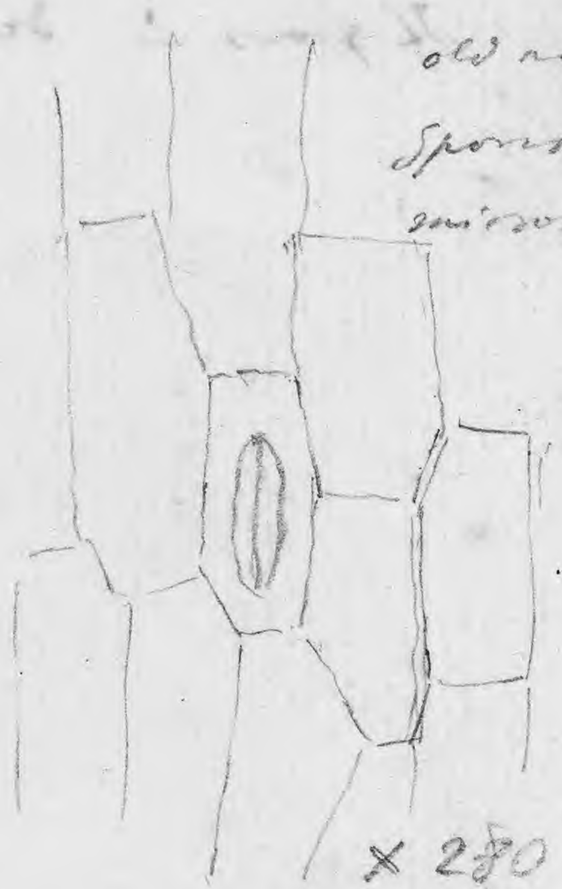
0.027–0.029 mm

old note says:
Spores 0.40 mm diam
microspores 0.028 mm long
smooth edges

X60



X 2



X 280

June 25 1867
4 bundles
regular.
dissepiments
very thin, 2–
3 layers of cells
walls also thin

$\frac{26-29}{60}$ mm = 0.43 – 0.48 mm

mean size 0.46 mm

stomata very few
(stomata abundant! $\frac{25}{6}$ 67)

13798

ALEX. LEITCH,
APOTHECARY AND CHEMIST,
Marble Building, Cor. Fourth and Olive Streets,
ST. LOUIS, MO.

E Durand writes Sept. 27. 1866:
I had this species 5 or 6 years ago from Mr Thurber
Later Prof Bridges brought home some specimens from the
vicinity of Newport – – –

It grows in dead water, completely immersed

No. 1 a
valida

Porter mss
Wm Conley July 23 1866

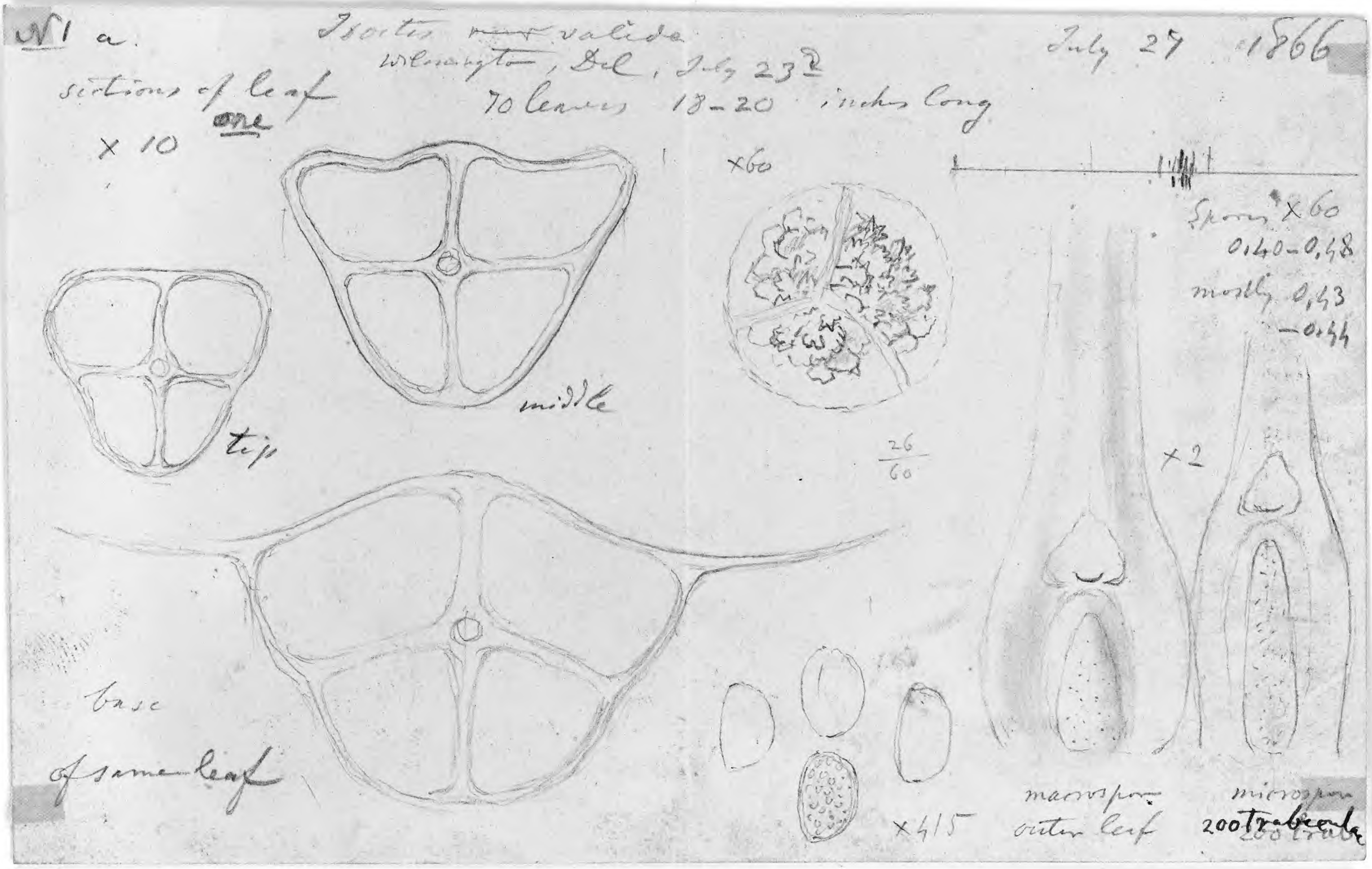
Aug 28 1866

13799

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.



13800

Alex. Leitch,

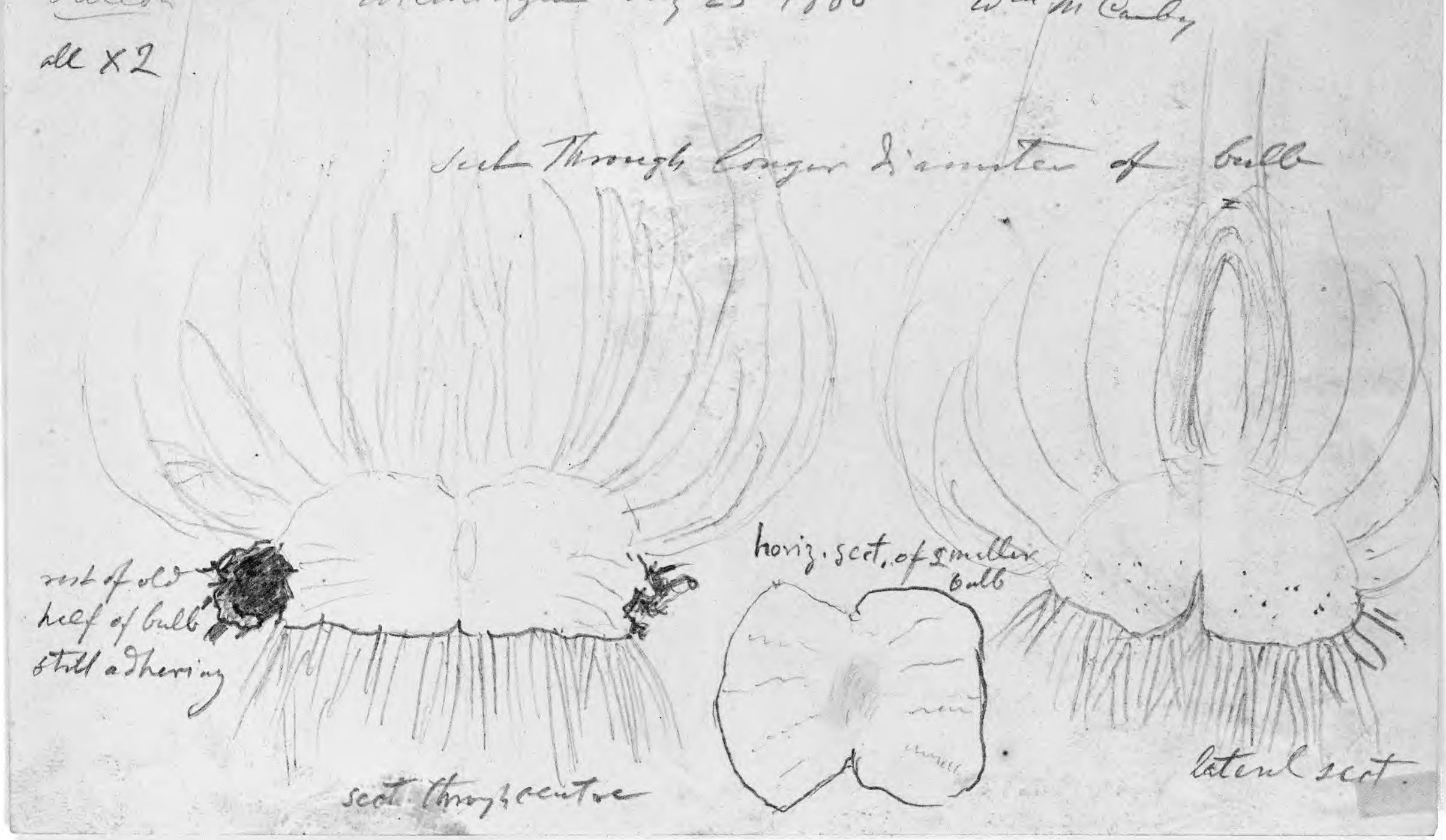
APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

No. 1. 6.
Valida
all X 2

Isoetes engelmanni valida
Wilmington July 23 1866

July 28 1866
Wm M Canby



13801

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

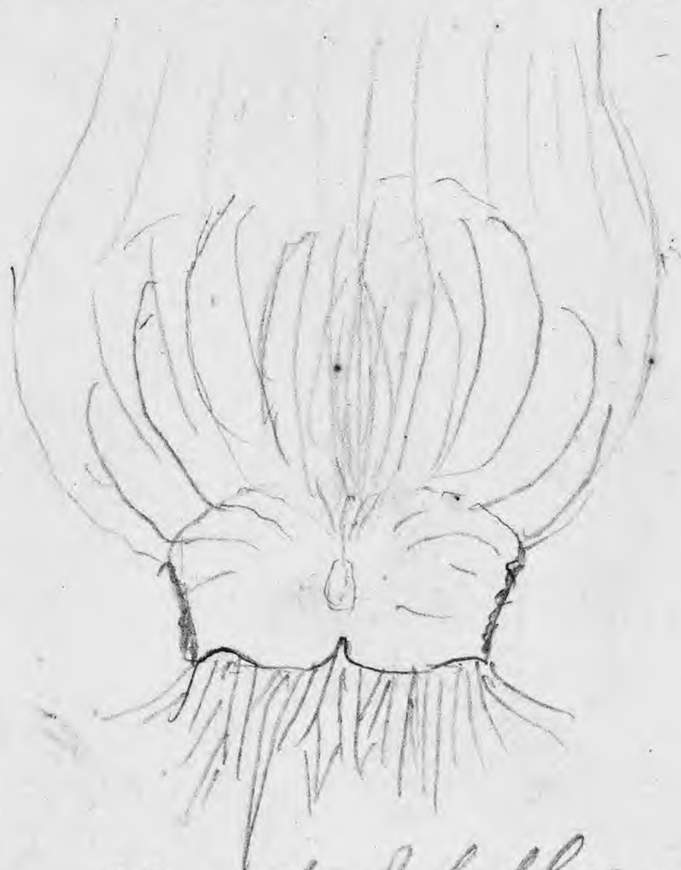
N. 1. c

Scoetes ~~[illegible]~~ valida

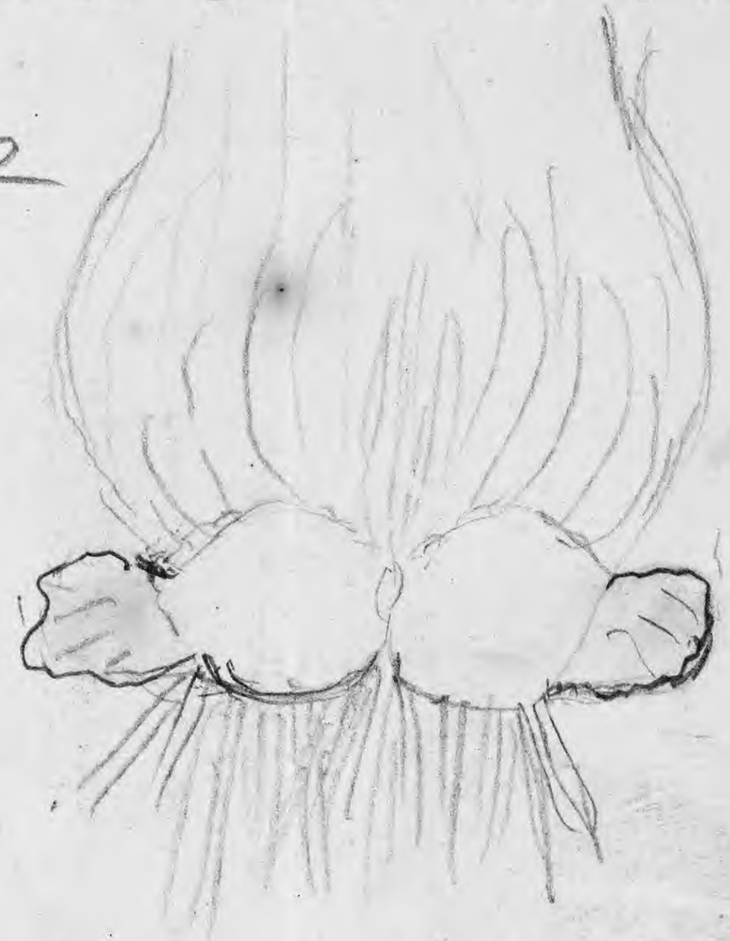
Canby Wilmington July 23d 1866

July 28 1866

smaller specimens with 40 or 50 leaves 16–18 inches long



×2



Keeled leaves

old parts of bulb have fallen off completely

old parts of bulb still fresh, only a little less white than young bulb

13802

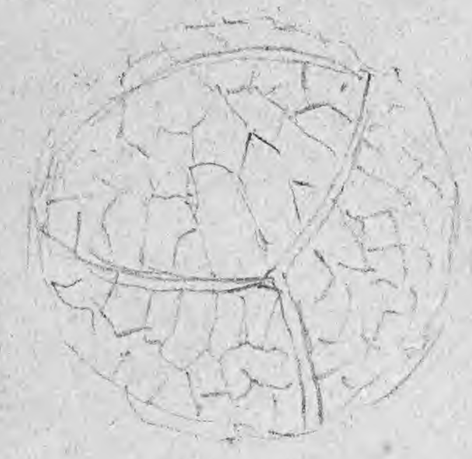
Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

Lycopodium
Form minor Borealis
Dec 14 1866
"Brattleboro Vermont 13"
ex H. Gray

diam of spores 0.38–0.45 mm



X60

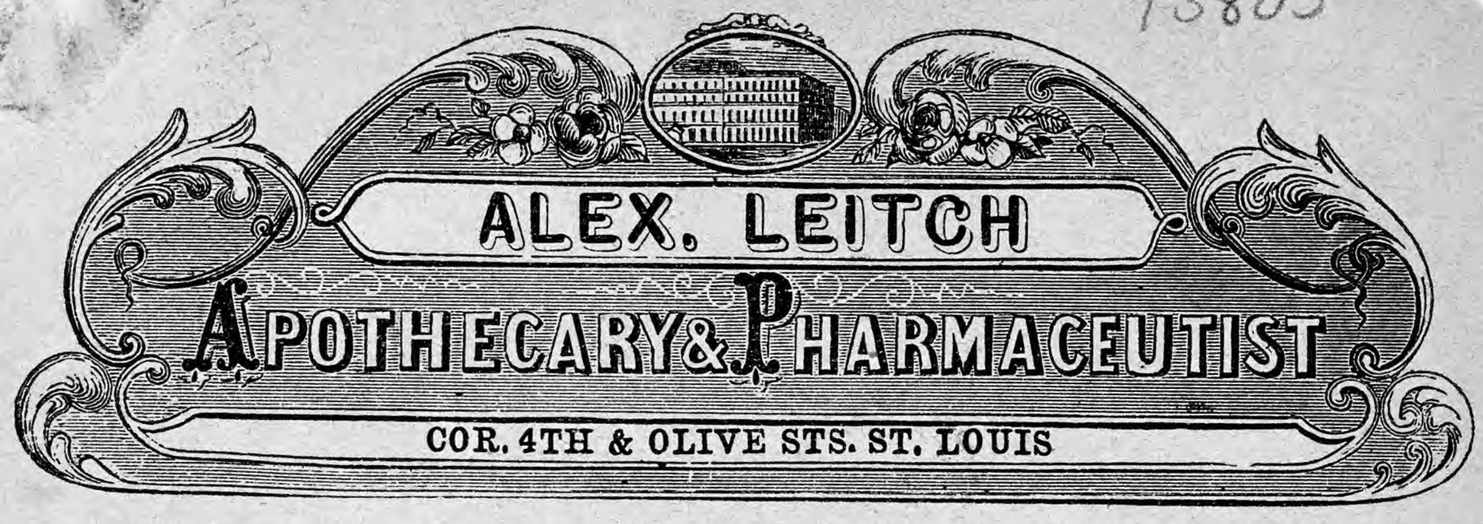
small plant, apparently
if 10 or 15 leaves,
leaves 8–10 centim long?
(broken off)

sporangia
X280

stomata apparently
rare (not very
distinctly seen)
X2

$\frac{10.5-11.5}{415} = 0.025-0.028$ mm

13803



Isoetes Engelmanni Dec 24 1866

Fresh Water Tidal shore, New Haven Ct 1857.
(with Tillaea, Elatine, Limosella, Myosanthos, Eriocaulon septangulare)

S.C. Eaton

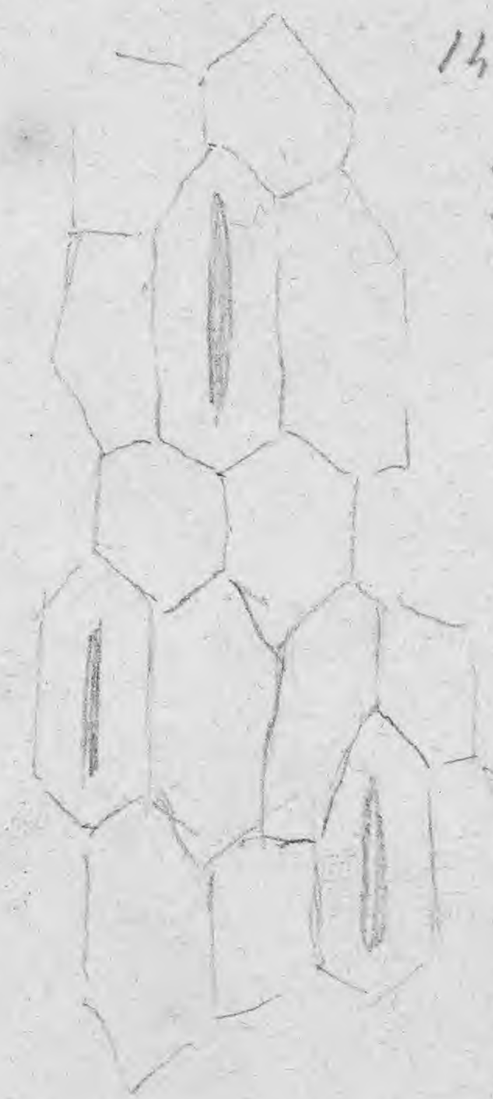
14–15 leaves

9–12 cm

macrospora favoso-reticulata

diam $\frac{22.5 - 26.5}{60}$ = 0.37–0.44 mm

0.025–0.028 mm



4 distinct but very feeble
bast bundles $\frac{26}{6}$ 67

no doubt, but true Engelmanni!
spores reexamined

13804

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Clive Sts. St. Louis, Mo.

Dec 11 1866

Sorites Cupressiformis var gracilis
Uxbridge Mass & J. W. Robbins, ex H. Gray
16 leaves

$\frac{24-28}{60} = 0.40 - 0.47$ mm
diam of spores

22-25 centim. long
at base rarely 8 mm diam

very similar to the Rhodes Island plant

probably not from Uxbridge, but from Colebrook Connecticut.

13805

ALEX. LEITCH

APOTHECARY & PHARMACEUTIST

COR. 4TH & OLIVE STS. ST. LOUIS

J. W. Robbins No. 13 Isoetes Engelmani Jun 28 1866

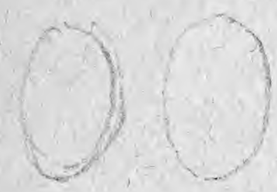
var gracilis
shallow Mountainstream on gravelly
Cotton, Colebrooks, Connecticut

diam of macrospores

$\frac{23.0 - 27.2}{60} = 0.38 - 0.45$ mm

no brown sclerodermal cells

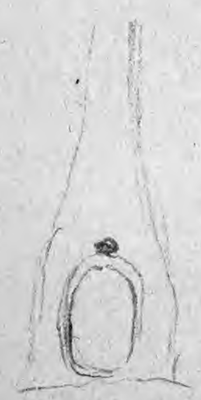
June 25 1867
4 regular tori bearing



0.023 – 0.024 mm

×2

very few stomata



microsporang

13806

ALEX. LEITCH.

APOTHECARY & PHARMACEUTIST

COR. 4TH & OLIVE STS. ST, LOUIS

Isoetes valida

July 29 1866

Th. C. Porter, Smithville, Lancaster Co. Aug 1865

recd from E. Durand.

exterior leaves with short bases

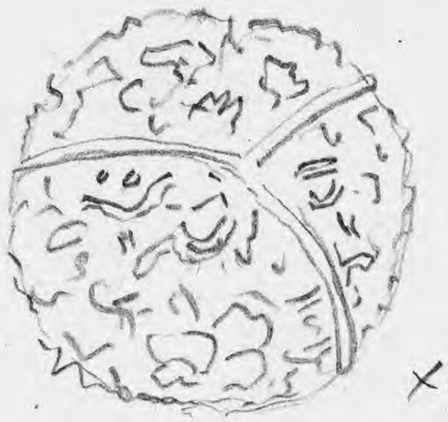
× 2

Spores 0.38 – 0.47 mm diameter

mostly 0.42 – 0.43

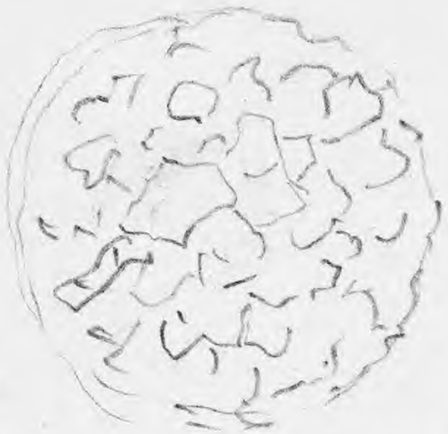
$\frac{23-28}{60}$ mm, mostly $\frac{25-26}{60}$

very large, thick plant



×60

upper part of spores more echinate and very irregularly reticulate



base of spores more reticulate

13807

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

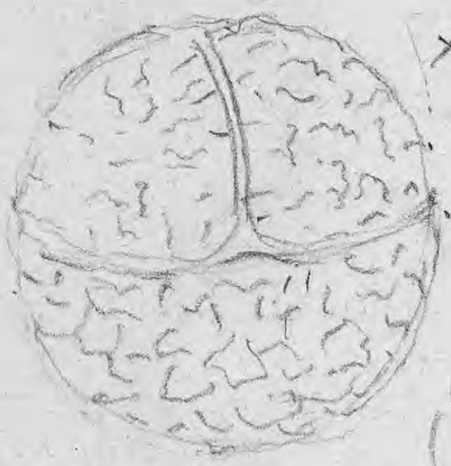
Isoetes lacustris var. [illegible] June 24 1867
Tidal shores of Passaic River
Prof Jacob Davis, begin of August (1858?)

not quite ripe

$\frac{24-28}{60} = 0.40-0.47$ mm
mostly 0.42–0.44

8–12 leaves
10–15 Centim.
607

×60

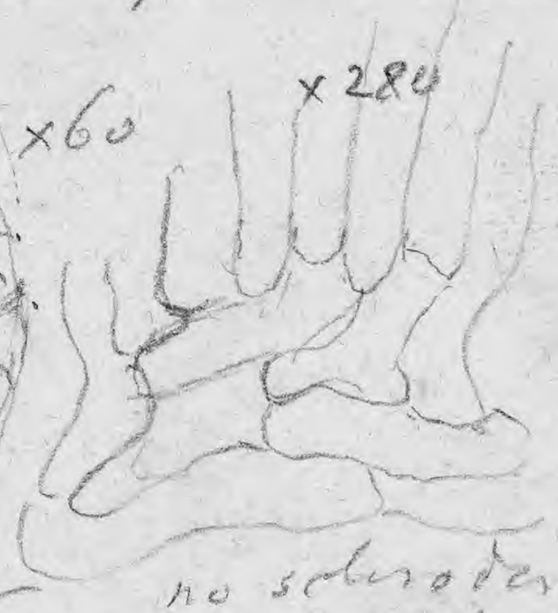


anastomizing crested ridges but sparsely and only here and there retical

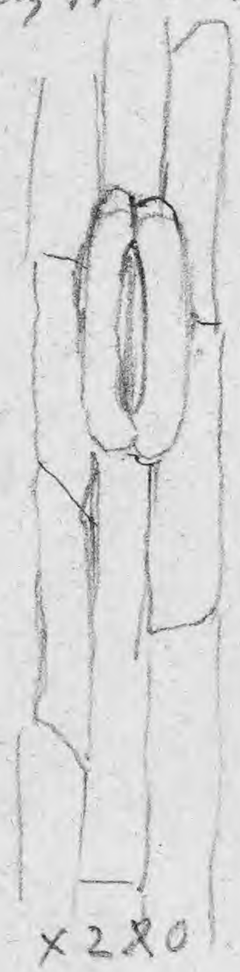
ellipse!

no microspores to be seen

×280



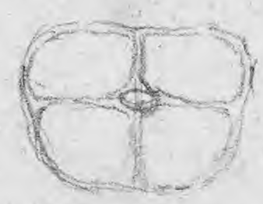
no sclerodermal cells in thin and transparent sporangium



×280

some raggeing only 1 (or 2) very feeble bast bundles

×10



walls & diaphragm very thin the latter only 1 cell layer thick

×2

scut.

largest sporium soaked, ×2

13808

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

Isoetes lacustrina Jan 10 1867
Clark's Pond, Brattleborough Vt
C. C. Frost 1865 12–18 leaves
H. Mann mis 7–12 cm long

$\frac{27-31}{60}$ = 0.45–0.52 mm

reticulation of spores
very distinct on all surfaces

0.022–0.025 mm

Submerged only in Spring

13809

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.